

Dermatological complications and quality of life: A cross-sectional study in Saudi female population

Skin diseases and quality of life

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Abstract

Aim: The present study aims to understand the pattern of skin diseases and their impact on female patient quality of life, as well as the Dermatological Life Quality Index (DLQI) across the Kingdom of Saudi Arabia.

Material and Methods: A pre-validated cross-sectional questionnaire-based survey (English and Arabic language) was adopted all over Saudi Arabia. The study contains 32 questions, which were divided into three parts as patient demography, characteristics of skin problems, and DLQI questions. Data was collected by online and offline tools and analyzed by MS-excel.

Results: Among the 410 participants, the major skin problem was acne vagaries (36.8%), followed by dry skin (24.4%), eczema (12.7%), and pigmentation (11%). Most of the patients (42.4%) first consulted the pharmacist and only 5.9% to the nurses. Over 83.2% have represented the localized lesions, especially on the neck and face (44.4%). Psoriasis and vitiligo have shown low-frequency but high DLQI scores (27.4 and 24.1, respectively) in contrast to high-frequency dry skin and acne (13.3 and 16.2, respectively). A total of 296 patients between 21-30 years of age showed a very large effect on patient life (score- 11 to 20).
Discussion: Dermatological complications have a significant negative impact on patient quality of life. Patients with psoriasis and vitiligo suffer more than any other skin problems due to the untreatable nature of the diseases and a sense of embarrassment. To address this issue, a psychotherapist should be considered as an integral part of the treatment to counsel and boost patient self-confidence and morale.

Keywords

Dermatological complications; Female; Saudi Arabia; Quality of life, DLQI

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Introduction

The skin is the largest organ and primary observable external features of the body that determines the person's social appearance and beauty. Psychodermatology deals with the correlation between in-between psychiatry and skin problems [1]. Both, acute and chronic dermatological complications (DC) are associated with a range of psychological problems. Patients with DC are more prone to develop psychological problems and endangered quality of life as compared to normal healthy people [2].

As per the report published by the WHO, the prevalence of DC is higher in developing countries, ranging from 21 to 87% in the general public, requiring immediate attention to address the issue (WHO 2005: Epidemiology and management of common skin diseases in children in developing countries). A survey conducted by the British Association of Dermatologists urges an immediate need for psycho-dermatology services to deal with the patient with psychological effects due to skin problems [3]. To date, a few surveys were carried out to study the impact of DC on psychological illness, and its negative effect on the patient's quality of life.

The outcome of the past survey indicated a few common findings i.e., higher prevalence of depression, anxiety, and suicidal tendencies in patients with DC compared to control groups [4]. Skin complications like eczema, acne, psoriasis, and chronic urticaria hurt the patient's quality of life and self-confidence [5]. DC not only affects the patient's psychology but also has a significant impact on their daily routine. A study conducted by Graham-Brown in 1996 has found that patients with chronic skin disease face financial loss due to a greater number of leaves from the workplace, large expenses spent on medicines, clothing, laundry, consultations, and finding an alternative treatment option [6]. A few other cross-sectional multicentered studies have reported patients with chronic dermatological problems who are concerned about their public look and appearance, inability to develop personal relations, and impaired sexual function due to physical and psychological effects [7, 8].

The prevalence of skin disease depends upon many factors, including race, inheritances, and dietary status, weather, hygiene, cosmetic use, etc. As per the study conducted by W Chen in 2010 on gender differences and DC, "males are generally more commonly afflicted with infectious diseases, while women are more susceptible to psychosomatic problems, pigmentary disorders, certain hair diseases, and particularly autoimmune, as well as allergic diseases" [9].

So far, no studies were conducted to understand the impact of dermatological problems, especially in the female gender. The present study aims to correlate the impact of DC in the female patient's psychological aspects and quality of life in the Kingdom of Saudi Arabia.

The present study was designed to add information to what is known about the epidemiology and prevalence of skin diseases in the population by means of the validated questionnaire. In addition to that, this study aims to describe the incidences and pattern of skin diseases in Saudi females along with their Dermatological life quality index (DLQI), published in 1994 to assess the impact on the quality of life of patients.

Material and Methods

The cross-sectional questionnaire-based study was conducted in the female population in-between the period October-2019 to February-2020 (5 months) in the out-patient department when visiting the dermatologist at private and government hospitals all over Saudi Arabia. The sample size was 410 female participants aged 15 years and more.

Study tool:

Online and off-line questionnaires (English and Arabic language) were used with a total of 32 questions. Questions were divided into three parts: 1. Demographic characteristics (8 questions), 2. Characteristics of skin problems (14 questions), 3. Dermatology Life Quality Index (DLQI) (10 questions).

The questionnaires contain a wide variety of information concerning socio-demographic data (city, age, gender), identification and causes of dermatologic issues, and the next part of the questionnaire was to evaluate patient's quality of life, adopted from the Dermatology Life Quality Index questionnaire [10].

Before finalizing, questionnaires were validated in 20 patients randomly. Based upon the response of the patients, a few modifications were done to make it available to the rest of the patients. Google forms (on-line) and paper prints (off-line) were used as tools for data collection. All the data were tabulated and graphs were drawn in an MS-excel spreadsheet.

Study parameters:

Various parameters were studied during the study to satisfy the mentioned objectives. In the first section of the study, patient demography was taken into consideration including gender, religion, nationality, marital status, occupation, education, age, place/city.

In the second part of the study, the characteristics of skin problems were analyzed, including the type of skin problem/infection, reported cause/reason, the duration/ how long time the participant faced such a problem, frequency of recurrence, family history of the same lesion, the spread of skin lesion, patients' hygiene level, the presence of any comorbidity, where the participant tried to get help, the affected area/part of the body, suggested precautions and provided drug treatment, type of treatment (allopathic/homeopathic/Ayurvedic/other), formulation/s and category of the medication used.

The third phase of the questionnaires covers the information, which helped us decide the patient's DLQI that includes over the last week (how itchy, sore, painful, or stinging has their skin was? how embarrassed or self-conscious the patient was due to skin condition? how much has the patient's skin interfered with going shopping or looking after their home or garden? how much the patient's skin influenced the selection? how much has participants' skin affected social or leisure activities? how much has the patients' skin made it difficult to do any sports activities? has the patients' skin prevented her from working or studying? how much has patients' skin created problems with their partner or any of their close friends or relatives? how much has patients' skin caused any sexual difficulties? During the skin treatment, how much has patient suffered like by leaving their home messy or taking up time to arrange it in order?

The answer to the above questions was scored based upon the severity like very much (scored 3); a lot (scored 2); a little

(scored 1); not at all (scored 0). A maximum score of 30 was calculated for each participant. A higher score represents more adverse effects on the patient’s quality of life. The final score of the patient’s quality of life was divided into 5 segments: No effect at all (0-1), small effect (2-5), moderate effect (6-10), very large effect (11-20), and extremely large effect (21-30).

Results

Demographic characteristics of the participants:

A total of 410 female patients of different age groups participated in the study from all over Saudi Arabia. The maximum number of patients was in-between age group of 15-20 years (156 patients), while only 9 participants were above the age of 50 years. Among 410 participants, 192 were married, while 208 were unmarried, and the rest were divorced. Concerning the educational level, 201 participants have completed their tertiary education, while 11 participants did not response (Figure 1 A).

Number of patients with dermatological problems:

Among 410 (100%) participants, 151 (36.8%) had acne, which is the highest reported problem. Whereas 100 (24.4%), 52 (12.7%), and 45 (11%) participants had dry skin, eczema, and pigmentation as main dermatological problems, respectively. Only 11 (2.7%) participants reported vitiligo and 17 (4.1%) had itching problems, while 15 patients complained of psoriasis (3.7%). Six patients showed more than one DC. (Fig 1 B)

Features of DCs:

Among 410 participants, 83.2% and 16.8% of them suffered from localized and generalized lesions, respectively. Among all the participants, the affected area was the allover body (7.8%), face/neck (44.4%), arms (28.8%), back (5.6%), and legs/feet (13.4%).

Concerning the hygiene level, 82.9% of patients showed a high hygiene level, whereas only 0.2% of patients showed a very little hygiene level. Out of 410 participants, 88% showed no comorbidity and 12% represented comorbidity. For patients suffering from dermatological complications, 42.4% consulted directly to the pharmacists, while only 5.9% consulted to the nurses and 14.9 % of patients relied on traditional remedies (Figure 1 C).

Reasons and characteristics of DCs:

Among participants with dermatological complications, 172 (42%) mentioned that it was due to weather conditions, whereas 12 (3%) stated it was because of drug reactions. Nearly, 176 (43%) and 110 (27%) patients stated that they were suffering for more than 2 years and less than 6 weeks, respectively. Concerning family history, 103 (25%) patients mentioned that family history was the cause of their problem (Figure 2 A).

Stated cause of dermatological problems:

Among the patients who were suffering from dry skin (100), 63 patients reported weather as the main reason, and only 3 patients responded as a genetic cause. Among the total

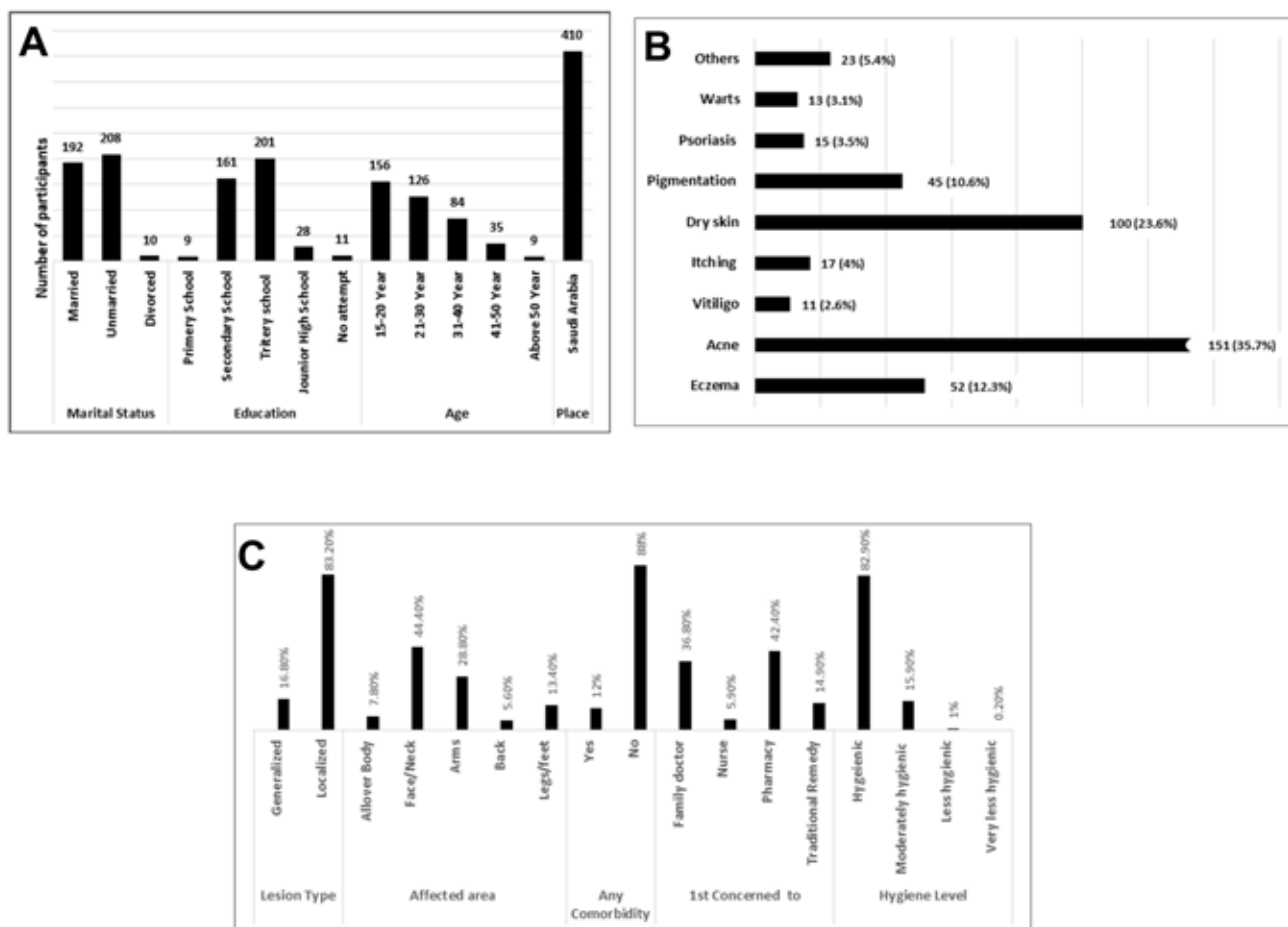


Figure 1. A: Demographic characteristics B: Number of patients with dermatological problems C: Features of dermatological complications

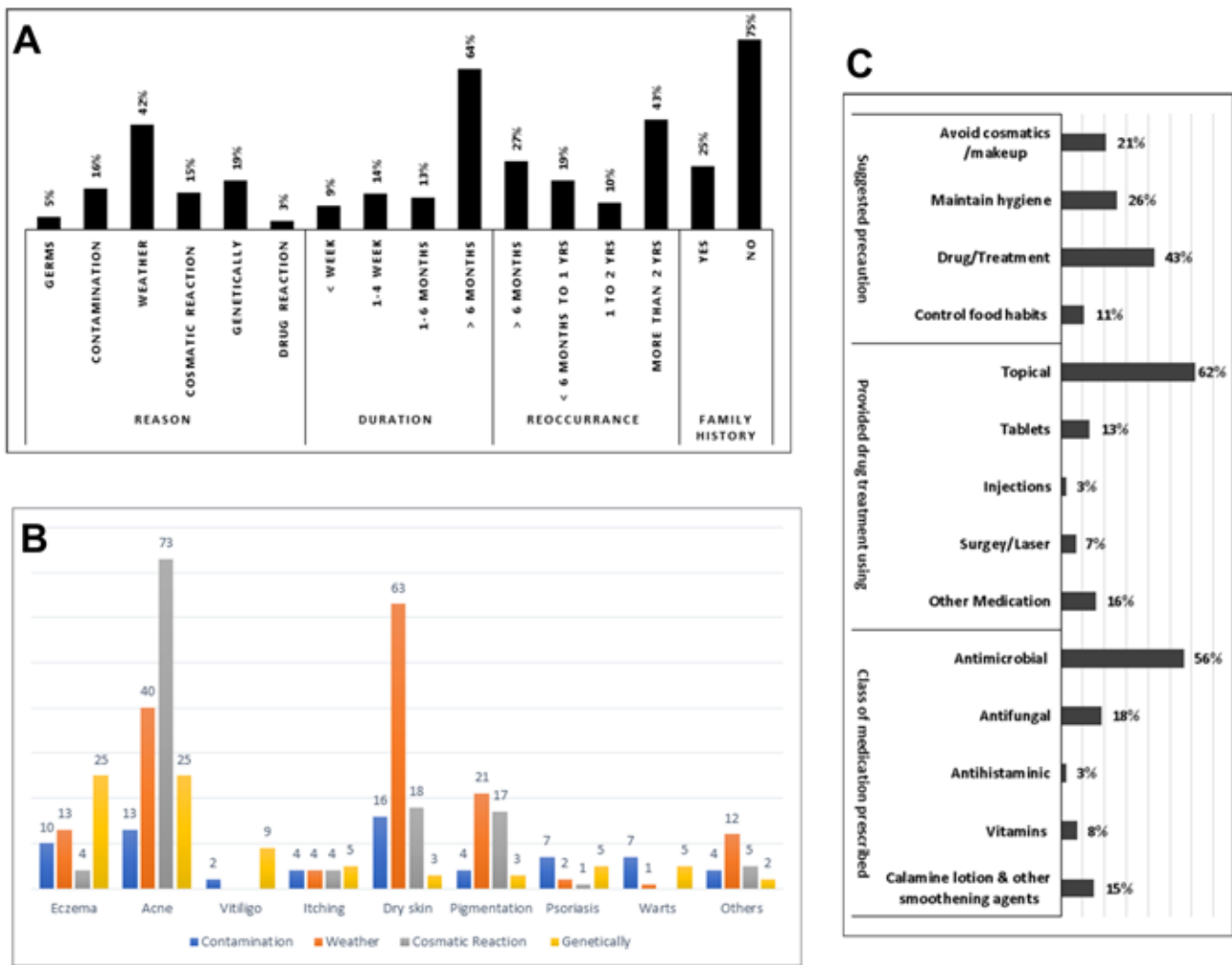


Figure 2. A: Reasons and characteristics of dermatological complications B: Stated cause of dermatological problems C: Suggested precautions and medications

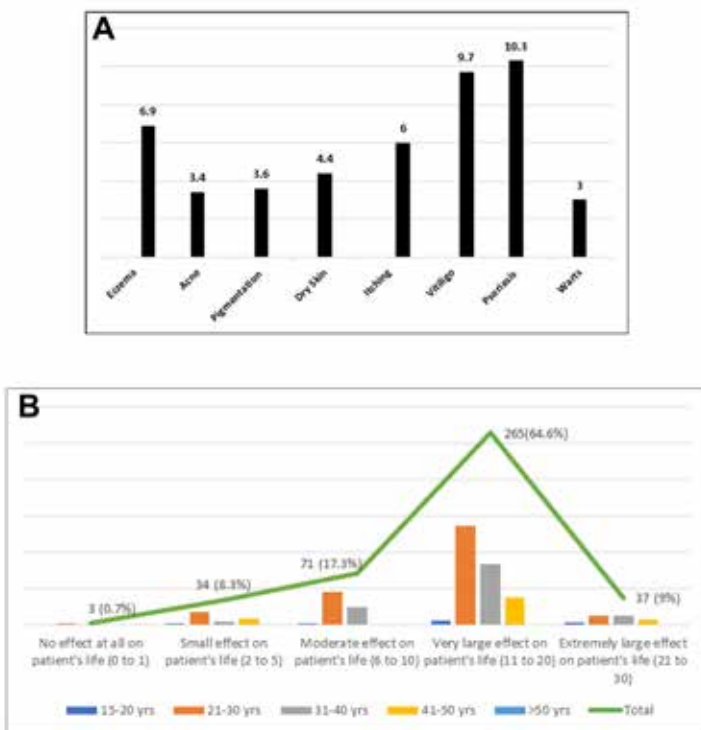


Figure 3. A: Average Dermatological Life Quality Index Score B: Distribution of the study population by age and life quality measures

number of acne patients (151), 73 patients responded that it was because of cosmetic use, and 13 patients stated that it was because of contamination/pollution. Among the eczema patients (52), 25 patients mentioned it was because of genetic origin, whereas 4 patients responded as it was due to cosmetic reactions. Patients suffering from pigmentation (45) blamed weather conditions and cosmetic use as the main reason for their complications (Figure 2 B).

Suggested precautions and medications:

The health practitioners suggested the drug treatment for 176 (43%) of the patients and only 45 (11%) were suggested to change the food habits. Health practitioners suggested to 254 (62%) of the patients for the topical application in-contrast only 12 (3%) patients were suggested for the injectable formulation for the management of the skin problems. Antimicrobials and antihistamines were prescribed to 230 (56%) and 12 (3%) of the patients, respectively (Figure 2 C).

Average Dermatological Life Quality Index Score:

Incidents of acne, dry skin, pigmentation exhibited a very large effect (score 11-20), whereas low-frequency vitiligo, psoriasis, and eczema exhibit extremely large effects (score 21-30) on average DLQI score. Among all the DC, psoriasis exhibited the highest effect (score 27.4), whereas warts had the lowest (score 7), which is considered a moderate effect on average DLQI (Figure 3 A).

Distribution of the study population by age and life quality measures:

Among the various age groups (296 patients, 72.2%), the age group between 21-30 years showed a very large effect on patient life (score- 11 to 20), followed by 31-40 years and 41 – 50 years. A significant number (77 patients, 18.8%) of patients showed an extremely large effect on their life (score- 21 to 30). A total of 30 patients (7.3%) showed moderate effect on their life, especially the age group between 21-30 years (Figure 3 B).

Discussion

The present cross-sectional survey has indicated a significant impact of DC on patient psychology and quality of life. The main objective of this survey was not only to study the pattern of DC in the female population, but also to study how these multiple symptoms compromised patient quality of life, as measured by the DLQI score.

Based upon patients' demography, unmarried participants, aged between 15-20 years, and those who completed their tertiary school education presented more complaints.

Acne vagaries and dryness of the skin were most frequently observed in 38.8 and 24.4% of the participants, respectively. Our findings are consistent with the earlier study carried out by Bassam et al, 2018. [10]. Skin dryness was correlated with weather conditions. In many parts of Saudi Arabia, including the northern region and the north-west coast, seasonal variations are extreme from 0o C to 54oC [11]. During the dry-cold weather, water from the skin evaporates more quickly that makes skin dry and flaky, causing itching and redness.

Acne vagaries are mostly related to hormonal changes in adolescents [12]. The presence of skin bumps, pustules, white and blackheads, and redness around the erupted skin makes patients a sense of embarrassment, shame, and left isolated. The average DLQI score for dry skin and acne was 13.3 and 16.2, which is comparatively lower than vitiligo and eczema. Among all stated skin problems, psoriasis (27.4) showed the highest DLQI, followed by vitiligo (24.1) and eczema (21.1). The highest score of psoriasis may be due to the presence of red patches on the skin, which is covered with silvery scale, dry cracked bleed skin, stiff joints, pain, and incurable nature of the disease causes discomfort to the patient, leads to psychological stress, which excruciates the symptoms like depression, anxiety, aggression, and suicidal tendency [13]. Our study also found a relationship between age and quality of life measures. The female patients' age in-between 21 to 30 years have shown a very large effect on the quality of life (11-20 scores). In adults, dermatological problems deeply affect their self-esteem due to neurohormonal changes and the problem facing in their daily routine while attending college, office, family, and friends. In our study, we also analyzed the patient's first visit to a medical or paramedical staff. Most of the patients consulted a pharmacist and family doctors instead of a dermatologist. This approach of the patients may be due to casual contact to pharmacists without any prior appointments in contract to specialists in the field needs appointment and consultation fees etc.

Most of the participants have shown the high-hygiene levels indicate other factors like weather, age, genetic, food

contamination, and cosmetics play a significant role in dermatological problems. In our study, a reasonable number of participants blamed inheritance and weather conditions for their skin problems. Though inheritance plays important role in vitiligo, psoriasis, and eczema, not all skin diseases are considered in our study [14]. More than half of the participants were suggested to use topical antimicrobial agents, and nearly half of the participants were suggested to go for drug treatment options, indicating that topical antimicrobial drugs play a vital role in the management of skin diseases.

Our current study findings indicate that the patients with DC, especially psoriasis, vitiligo, and eczema, have psychosocial comorbidities that negatively impact their social life, as clearly demonstrated by high average DLQI scores.

To address the above issue, a dermatologist may play a vital role by helping patients to overcome such problems and improve the patient's quality of life through appropriate discussion and interaction with the patient. For a few untreatable and/or recurring conditions like psoriasis, vitiligo, acne, dermatologists should council how to live with the conditions with minimum symptoms (assuming that perhaps some symptoms will remain). Moreover, based on outcomes of this study, we also recommend considering psychotherapists as an integral part of the treatment to boost patient confidence and self-esteem.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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